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CHAPTER X

THE EARTH AND ITS BEGINNING

THE Lord Buddha cared very little for speculations, or theories as to the construction and extent of the terrestrial globe, or as to the size and motions of the sun, the moon, and the stars. Shin Gautama was entirely a moral philosopher, concerned with the workings of the mind, whose highest aim was to despise matter and free itself from such trammels in the progress towards Ne'ban. The consideration of natural phenomena was therefore entirely outside the province of the true sage. It is probable, therefore, that the transmogrified Hindu system which does duty for Burmese cosmography was elaborated rather by the Buddha's disciples than by himself. It has been altered only to suit Buddhistic religious views, with here and there the fancies of a lively imagination thrown in, but the outline of it existed before Prince Theidat came.

The Burmese are therefore certainly not responsible for it, but as some knowledge of the system is necessary for the comprehension of various superstitions, phrases, and forms of speech, it may be desirable to give a slight sketch of these astronomical and cosmical theories.

The word lawka means a whole revolution of nature. The world is being constantly destroyed and reproduced, but each lawka lasts an incalculable length of years. It is divided into four periods, and it is not till the arrival of the fourth period that man appears upon earth. During that last period, divided into sixty-four Andrakaps, the life of man must, in each Andrakap, wax from ten years to an Athinkaya (a time represented by a unit and a hundred and

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of time, but Mr. Taw Sein Ko says in his report of 1908: "Numerous terra-cotta tiles have been found in the basements and corridors of several of the pagodas. They illustrate scenes in the *jâtakas* and in the life of the Buddha Gautama. They are of two types. In the Ananda and Shwezigôn the tiles are enamelled green and show Chinese influence. In the Petleik pagoda they are of red baked clay and have South-Indian resemblances. All three shrines belong to the eleventh century A.D. The stone sculptures in the Ananda are fine, and the pose, drapery, and contour are distinctly Indian. In the Sein nyet pagoda, halfway between Myinpagân and Thiyipyitsaya, of the eleventh century, the Chinese influence preponderates. The twin Petleik pagodas are at Thiyipyitsaya."

Few, if any, contain actual relics. The cloistered and terraced temples are simply receptacles for huge images of the Buddha and others. The corridors of the Ananda and Gawdapalin are filled with sculptured groups representing events in the life of the Great Master, and figures of eminent disciples and yahanda. In the central recesses, where are the colossal figures of the Buddhas, the light is cunningly admitted from above so as to fall on the calm gilded face, producing a most weird and striking effect. But Pagân would require a monograph itself, and with it should be compared Shwegu, between Mandalay and Bhamaw. That sacred island is a perfect forest of pagodas, and only fails to obtain wider fame because of the existence of Pagân. There are 999 shrines within its limits, and a much larger proportion of these exist intact than is the case with Pagân, though none of them can compare with the magnificence of the Ananda.

The question of the architecture of the Pagân temples, which is so different in style from that found in other parts of Burma, has been fully discussed in Yule's admirable *Mission to Ava*. He omits, however, to notice the fact that Anawrata-saw Min, when he established Buddhism in Pagân, built all the pagodas and temples after the exact model of those then existing in Thatôn, in the same order and of the same size. The town of Thatôn, above Maulmein, was the first settlement of Thawna and Ôttara, the

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missionaries from Central India who introduced the teachings of the Lord Buddha into Burma. There was certainly an ancient Hindu colony there, and its inhabitants may have brought some notions of their architecture with them. But whether this be so or not, Burmans find source for pride in the admitted fact that "there is nothing in India to compare with the classical beauty of some of the smaller temples, or the stupendous architectural majesty of the Ânanda, or the Ta-pyi-nyu."

The following song is taken from a very favourite play, *Sawpé Sawmé*, written by a Pegu dramatist and published in 1880, and gives an idea of the canticles sung at the dedication of pagodas and similar ceremonies. It is set to a very popular air, the Yôddaya Nan-thein Than, "the Siamese Palace Tune," but I have not ventured to try to reproduce the original complicated metre. The sikkè or magistrate in question was U Maung Galé, a younger brother of the late U On, long the only Burmese C.I.E., and once second judge of the Small Cause Court in Rangoon.

THE GILDING OF THE SHWE MAW-DAW

Far-famed and bright, the Shwe Maw-daw
Is known where'er the Sacred Law
To toiling millions brings the peace,
Bids grief be still and turmoil cease.
Fair glory of Peguan land
Revered on earth's most distant strand,
Not more Dagôn's great golden pile
Hath honour in the Southern Isle,
Where'er beneath the zampu tree
The pious bend the suppliant knee,
Than thou the glorious lotus shrine
High temple of the hairs divine.
As leaps on high the funeral flame
Of some yahan of sainted name,
A beacon light to Neh'ban's rest
And haven sure to men distressed,
So skywards reared, thy shapely spire
Upsprings a pyramid of fire.

The hoar seer's words are now proved true,
Spoke ages since while yet all new

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231 Silk-raising is therefore encouraged as a means of stopping the ruination of the timber. It is a very simple matter, involving the least possible amount of toil, and at the same time being on the whole very profitable. Moreover, the [137] Burmese mulberry-bush, which is quite distinct from the ordinary *Morus Indica*, does not grow well on the alluvial soil of the low lands, while it flourishes on the hillsides, where the Yabeins mostly live. The silk obtained from the caterpillars fed on the leaves of the hill-shrubs is very much better than that obtained from the mulberry-bushes of the plains. Thus it happens that all parties are likely to be pleased. The English Government foresters will gradually find means of putting an end to the timber-burning, which they detest; the richer Burmans down in the lowlands will neither have the temptation to increase their income at the expense of their piety, nor will they have that piety shocked by an organised system of taking life; while the Yabeins in their own hill-villages will be allowed to do as they please, and will accumulate tidy sums of money into the bargain.

231 ●171 It is certain that neither the silkworm nor the mulberry-bush is indigenous in Burma. It is said that the first cocoons were brought from China in the reign of King Anawrata Saw. Others again maintain that the Chinese taught the Shans, the Shans the Karens, and these the Burmese. In some places among the more superstitious hill-tribes the mulberry-tree receives a kind of worship. In any case it is more probable that both the silkworm and the tree were introduced from Western China, down the valley of the Irrawaddy or the Salween, than that they came over the hills, through turbulent mountaineers, from India. The 231 shrub does not grow much more than ten feet high, and 289 seldom produces good succulent leaves for a longer period than three years. After that the plants are apt to get coarse and stringy, and the cultivators ordinarily abandon the plantation, or root out the bushes and plant new ones. As the shrub will not flower it is propagated by cuttings, and new shoots are constantly being planted so that there may be an unfailing supply of young and fresh leaves. The Burmans call it the posabin, "the tree the silkworms eat." There is another tree—that from the bark of which the coarse paper

[life as an alternative to head-hillage--ANALYST]

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CHAPTER XXXVII

CHESS

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I DO not say that the Burmese invented chess, either for the world or themselves. As latter-day English dramatists "adapt" from the French, so Burmese play-writers steal from the Hindoos, and possibly the game of chess was got in the same way. But there is a considerable diversity in one respect. The plays are rendered into Burmese with a stupid fidelity. The sayās do not even take the trouble of altering the names of men and places, and the only difference in the pieces is that the lubyets, and occasionally even the actors of higher parts, introduce "gag" of a comic and local description to satisfy the national demand for fun and frolic, and to carry down the prosiness of the staid Hindoo. Chess may have been taken over in a similar way, and altered after the same fashion. I remember once, indeed, hearing an enthusiastic player in Rangoon claim the invention of the game for an ancient Talaing queen. She was passionately fond of her lord; he was equally fond of fighting; and to keep him by her, and at the same time out of the dangers of the wars, she invented the game of chess. The story has a certain pathos about it, and it would be pleasant to believe it true; but I never came across any other Burman who had ever heard the story, and am afraid the old sitduyin player was romancing. But if the Burmans did take the first notion from India, they have greatly altered the game, and not less improved than altered it.

It is generally believed that it is to the Hindoos that the world owes this most purely intellectual of games. Sir William Jones was quite positive on the point, and quotes

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from the Bhawishya Puran. This seems all the more mysterious when he proceeds: "The beautiful simplicity and extreme perfection of the game, as it is commonly played in Europe and Asia, convinces me that it was invented by one effort of some great genius; not completed by gradual improvements, but formed, to use the phrase of Italian writers, by the first intention." But the European game is as different from the old Hindoo as the Burmese is from either. The Sanskrit name was cha-tur-anga—literally, the four members of an army: elephants, horses, chariots, and foot-soldiers. But the Hindoo game had four armies on the board; yellow and black against green and red. Each army had a corner of the board to itself, and there were usually four players. One of the allied armies on either side attacked the immediately opposed force in flank, and therefore had an immense advantage at the start. Moreover, the allies were never sure of one another. It was allowed, and even recommended, to indulge in treachery. The black king might, in the heat of battle, attack and depose his yellow friend, uniting the two armies under himself against the green and red foe. However consonant this might be with the national character, it can hardly be claimed as a special beauty in the game. A ship, or boat, also figured somewhat mysteriously in the warfare. Moreover, the rule that the piece to be moved was determined by a throw of the dice, by still further complicating the game, virtually ruined all scientific play, and robbed it of more than half of its interest as an exercise of purely intellectual skill. When a cinque was thrown, the king or a pawn had to be moved; when a quarte, the elephant; a trois, the horse; a deux, the boat. With such a method it was impossible to forecast the game—or, in fact, to work on any leading idea at all. Nevertheless, the Hindoo game is undoubtedly very ancient, and has certainly the oldest history of any known form of chess. It is alluded to in the most ancient law-books. The wife of Ravan, King of Lunka (Ceylon), is said to have invented it to amuse her spouse with the image of field war while his capital was besieged, 5000 years ago, by Rama, with his wild hordes of barbarian mountaineers, derisively called monkeys, or satyrs, in the great Indian epic. The Hindoo

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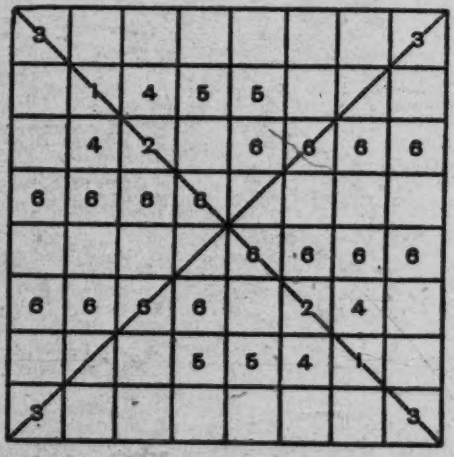
game, then, if it really be the first idea, has been no less altered by us than by the Burmans, as well as by the Persians.

The Burmese arrangement of the pieces differs entirely from the Hindoo, though we may, perhaps, imagine a reminiscence of the four armies in the arrangement of the pawns. The pieces are as follows :—

1. Min=one king.
2. Sikkè=one lieutenant-general.
3. Yittā=two war-chariots.
4. Sin=two elephants.
5. Myin=two horsemen.
6. Nè=eight pawns, or foot-soldiers.



The king has the same moves as in the English game, but cannot "castle." Sikkè can move diagonally in advance, or retrograde one square at a time. The yittās have the same power as the English castle or rook. The sins have five moves, one square at a time—one direct forward, two diagonally forward, and two diagonally backwards. An elephant cannot walk straight backwards, nor can he go sideways. The myins have precisely the same power as the English knight. The pawns act in the same way as in the English game, except that in the initial move they can only advance one square. They may become sikkè, in the event of that piece being taken, by advancing to the diagonal line which stretches across the board. When, however, the pawn replaces the dead leader, he is not allowed to remain on the square where he gained the distinction. He must be placed as one of the eight surrounding checks, at the player's option, and therefore often falls a victim to his new-gained eminence.

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for the gallant foot-soldier who may win the marshal's bâton. On the whole, the Burmese game is undeniably a good one; far superior to the Hindoo, or the Persian, though possibly not requiring the skill and calculation of the European form.

It may perhaps be said that the Burmese would be more likely to get their game from their Mongolian relations than from the Hindoos. This is historically improbable, and a comparison of the games bears out the belief. The Chinese, as usual, claim for themselves priority in the discovery of the game. Unfortunately, however, they fix a date when it was invented, and this is long after the time when the Aryan game is first spoken of. Three hundred and seventy years after Confucius (B.C. 174), Hung Ko-chi sent a warlike expedition into the Shensi country, under a mandarin called Hem Sing. After one successful campaign, the troops went into winter quarters. Shensi lies in the north-west, and the weather was very cold; and the soldiers thought of their families, and wanted to go home. Hem Sing, who was a great military genius, invented the game of chess to occupy their minds and foster their military ardour. The soldiers were so delighted with it that they forgot the inclemency of the weather, and their wives and children at home, in the excitement of the new game. So the winter passed away, and in the spring-time Hem Sing took the field again and conquered the entire province, in consequence of which Hung Ko-chi assumed the title of Emperor, and chess was held in the greatest reverence ever after. So says the book of Chinese Annals.

The Chinese game is a very odd one. The pieces are played, not on the squares, but on the lines. I should have mentioned before that in none of the Eastern games are the squares differently coloured. Midway between the opposed forces flows a river. The king on either side is shut up inside a fortress, out of which he cannot move, but can shift about from one side to the other as much as he pleases. On either side of the fortress are two princes, his sons, who are equally bound to stick to the side assigned to them. There are a couple of elephants in either army, which, however, being very heavy, cannot cross the slender plank-bridge thrown over the stream for the passage of the other troops.

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They therefore remain on the defensive. There are also pieces called pau—bombardiers or rocket-men—with curious powers. They can move the whole length of the board, in the fashion of the castle. If an adversary's piece intervenes, they can take the pawn or piece immediately behind it, but cannot kill direct. Students of the Persian game will be reminded of the power of their elephant. It will be seen from this cursory description that the Burmans can hardly owe their game to the Chinese. Shin Gautama sent us Buddhism from "the Middle Country";[1] it is possible that the game of chess came from India also. But if so, while [178] Burmese Buddhism has hardly changed at all, and remains much more like the original teachings of the Master than the faiths of Ceylon, Nepaul, and Thibet, the game of chess has been greatly altered, and I think I may venture to say vastly improved.

[1] Myizimadetha, not the "Middle Kingdom" of the Chinese.

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to learn by the eye, while the Burman learns almost entirely by ear, and the language is correspondingly affected. The semi-civilised man has a gift for catching faint distinctions of sound; and a modulation hardly perceptible to the European is enough to give to the Burman an entirely new meaning to the word. Fortunately the grammar is of the easiest possible character, and there is an extensive written literature, so that recourse may be had to the system of learning by the eye; but this only produces book scholars, and without a knowledge of the pronunciation it is impossible to appreciate the smooth flow of the dramatic metres. Individual sentences, too, may be clear enough, and the immediate connection of subordinate ideas with the leading thought is a great help, but longer compositions can often only be understood by a careful collating of the whole meaning, when once reading aloud would make the whole idea perfectly evident to a Burman.

One of the principal features in the language is the arrangement of words in a sentence, which, as is the case also in Thibetan, is the exact reverse of the order followed in English. This is the more singular and significant to the philologist, because the surrounding Shans, Talaings, and Karens observe practically the same sequence as in English. Another peculiarity is in the nouns, adjectives, and tenses of verbs, which are all formed by the addition of suffixes or affixes to the verbal root. Passive verbs are in very many cases transformed into the active form by the aspiration of the initial consonant, and transitives from intransitives in the same way; as kya-thi, to fall; hkya-thi, to throw down, or cause to fall; pyet-thi, to be ruined; hpyet-thi, to bring to ruin; lut-thi, to be free; hlut-gyi, to set free. The language is written from left to right, and there are no spaces between the words, and but very few paik, or stops, to mark separate sentences, except the paik-gyi which divides paragraphs, and consists of four short perpendicular lines arranged in couples. The written characters are, all but one or two, composed of circles, or segments of circles, having acquired that shape from the original Nagari, by the custom of writing with a pointed style on palm leaves. The alphabet is derived from

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the Magadhi or Pali (the latter word properly meaning a text and not a language), and was doubtless imported into Burma with the teachings of Buddhism. The monosyllabic character of the language has, however, considerably changed the sound of many of the letters. There are ten vowels and thirty-two consonants, every alternate vowel having the sound of that preceding it, but considerably longer and broader in tone. The consonants are divided into groups of gutturals, palatals, cerebrals, dentals, and labials, with five liquids, a sibilant pronounced *th*, and an aspirate. In each class there are five letters; the first the simple sound, the second its aspirate, the third the sound rough and hard, the fourth its aspirate, and the fifth the corresponding nasal. The letters of the alphabet have all names descriptive of their shapes, beginning with ka-gyi and ka-gwe, "great ka" and "curved ka." Some of the names are singular; "big-bellied ta," "elephant shackles hta," "bottom indented da," "steep pa," "hump-backed ba," "bridle za," and "supine ya." The vowel *a* is inherent in every consonant, and is pronounced in every case, except when it is "killed" by the "that" mark, when the consonant itself is also killed, and the effect produced is a short, sharp, abrupt termination to the word, as if the letter were strangled in the attempt to pronounce it.

A peculiarity which Burmese shares with all the other cognate tongues is the use of help words in counting—"nouns generic" as they have been called. One cannot say in Burmese, as in English, "two dogs," "four spears," "three trees," and so forth. It is requisite to mention first the thing spoken of; second, the number or quantity of objects; and finally, the genus, or class to which they belong. Thus kwe hni'-gaung, dogs, two animals, or two dogs; hlan le-sin, spears, four long, straight things; ôn-bin thôn-bin, cocoanut palms, three trees, and so forth. The cardinal is not placed in immediate juxtaposition with the noun, but has the guiding word in between. There are a vast number of these generic nouns, and they come quite naturally to a Burman. He speaks of boxes and pots as so many "round things"; books and letters as "writings"; mats as "flat things"; horses and carts as "things to be ridden on";

BURMESE MUSIC.

"Among all the kings of Burma, there was one King Thālun, during whose reign (1629-1648 A.D.) Minister U Aye compiled a treatise on Burmese music called *Navalāhka*[1] နဝလာကာ in which were included the 37 ritual songs. Later, in the reign of Bodawpaya (1782-1819 A.D.) this treatise was revised and enlarged by Myawadiwungyi U Sa. It was known to be printed in the royal press within the city in Mandalay. Apart from this no other Burmese work on Burmese music has been known to exist for all the fifty years and more after the British annexation (1885 A.D.).

"Because of this paucity of printed record, it was thought that music existed only in western countries and not in Burma. Not so. There is evidence in Buddhist literature that music has flourished in this country for a long time. Unfortunately, the theory and practice of music have not been put into writing. Instead, they were handed down from father to son by word of mouth and by hand-on-hand instruction, so that, human memory was the only repository of Burmese music.....

"*Appendix—cide* Abhidhāna Nissaya: The music which Pañcasikhā (the wearer of five top-knots) made on his three-quarter-*yojana* long celestial harp Bheḷuva is composed of 7 (ground tones) *Svara*, 3 *Grāmas*, 21 *Mūrchanas* and 49 *tānas*, the total effect of which is known as *Sramaṇḍala*.

"Bulls produce the Usabha tone; horses, the Dhevata; peacocks, the Çaḍya; goats, Gandhāra; cranes, Majjhima; cuckoos Pañcama; and elephants Nisāda.

Grāmas are three: Çaḍya, Majjhima and Sādhāraṇa.

Therefore the above scale of seven tones played in three different positions, raised, lowered, or natural, produces the 21 varieties of sounds, which according to U Ba Choe in ဇော်ဘဉ်(ဂျ)ဝါး ဆင်ကြိုး is the reason why twenty one is the number of drums in a drum-circle ချိန်းခြိုး, gongs in a gong-circle ကြိုးနှင့်ချိန်း and pieces of bamboo or iron in the ပတ္တလား *pattalar* the Burmese relative of the xylophone or the glockenspiel.

The above classical terms are explained authoritatively by Fox Strangways[2]:

GRĀMA (ဝါး) the name has been applied specifically only to three scales—the Sa-grāma, our major with a sharpened Sixth; Ma-grāma, *our major C-c, but intended presumably to be used as an F-f scale*[3] with a sharpened Sixth; and the Ga-grāma, possibly intermediate between the two, long obsolete.

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1. None of the works on music mentioned are available nowadays. U San Win has seen *Navalāhka* နဝလာကာ in pasbeik form and informed me that he would try to trace the whereabouts of the present owner in response to my suggestion that this valuable document should find its most fitting place in the University Library. In an article on the 7 tones ဆင်ဖြိုး(ဂျ)ဝါးမကြိုးဆင်း in စာပေဗိမာန် Vol. 1, No. 3, 1936, U Ba Choe mentioned two more works *Nāradsūra* နာရဒသူရ and *Maghathā* မာဃဒေဝ of which only the former, a Sanskrit classic attributed to Nārada, is mentioned in the list of Sanskrit works on music in Fox Strangways' *Music of Hindostan*.

2. *Music of Hindostan*, p. 106 *et seq.* It should be noted however that these terms, in spite of their Burmese connection, apply, so far as Fox Strangways is concerned, to the music of Hindostan.

3. The italics are mine. This statement seems to apply to the Burmese scale of *Hnyinlone* ဉီးလုံး C-c, which has puzzled me for a long time because that class of songs ဉီးလုံးဖြစ်သည့် *Kyok, Baul Thaukkyan*, which I am sure have F as their tonic, are said to be played in the C-c scale. These words made me feel less puzzled. However, there are many puzzles to come concerning the Burmese scale.

13: Khin Zaw I-5 (no date) 1940 AP1 Burma
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BURMESE MUSIC.

A feeble musician, Musila (မုသိလ) of Ujjeni, whose music on the *vīnā* was 'like scratching on a mat,' came to learn of Guttila (ဂုတ္တိလ) of Benares (the Bodhisatta). Guttila's parents when they heard him said "Shoo! Shoo! the rats are gnawing the *vīnā* to pieces'. Guttila who, as Bodhisatta, was 'skilled in discerning from the lineaments of the body' said 'Go my son, this art is not for you.' But Musila got his way; and Guttila, the Bodhisatta who did not stint his knowledge, at last pronounced his pupil perfect. Musila pressed to be taken into the king's service. This was done; but the king awarded Guttila twice as much as his pupil. Musila protested, and forced matters to a contest, of which proclamation was made to tuck of drum. The Bodhisatta reflected that he was old, and that 'if he beats me, death in the wood is better than the shame which will be my portion.' So to the woods he went; but 'kept returning through fear of death, and going back to the wood for fear of shame,' so that 'the grass died as he walked and his feet wore away a path.' In his trouble Sakka, the king of gods, appeared. Guttila was to break, in the contest, one string after another, beginning at the 'beestring' and the music should be as good as before. 'Then you shall go on playing with nothing but the body; and from the ends of the broken strings the sound shall go forth and fill all the land of Benares for the space of twelve leagues.' All happened as was foretold, and the scholar, beaten out of the field, was stoned and torn in pieces by the populace..."

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So far the classics. Yet it appears that in the music itself there is as much evidence (if not more) of Chinese and Siamese influence as there is of ancient Indian influence in literature. I hope these influences will receive the attention of researchers in Burmese history.

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As far as I am aware the Chinese influence seems to be the oldest. An unspoilt Burmese ear will catch Chinese cadences in any extemporization on the black keys of the piano in the truly old Burmese style. But that is no evidence. I quote J. Kunst[1].

"....This being granted, Prof. von Hornbostel has made a very important discovery, that the scales of very different civilisations and peoples are derived from this ancient Chinese cycle of blown fifths. All these scales are composed of a series of notes, ordinarily 5 or 7, which follow each other in the cycle in some kind of regular fashion.

1. *De l'Origine des Echelles Musicales*. Conference faite le 7 Janvier 1929 à l'Institut Colonial d'Amsterdam. *In* Journal of the Siam Society, Vol. XXIII, pt., pp. 115-116. Translated by G.

[114]

533 175 The above seven songs, when sung or danced, all follow the *huang-chung-shang* mode.

(viii) "Sweet Sugarcane King." In P'iao it is called *o-ssŭ-lüo*. It says that Buddhists are as sweet as sugarcane, the flavour of which pleases everyone.

(ix) "Peacock King." In P'iao it is called *t'ao-t'ai*. It tells of the brilliance of its plumage.

(x) "The wild goose." It says that, flying or standing, these birds are always in pairs : so comrades must all forgather.

(xi) "Banquet Music." It is called in P'iao *lung-ts'ung-wang-mo*. It says that tunes of peace are excellent for banquets and meeting together.

(xii) "Washing care away." It is also called "the reed-organ dance." In P'iao it is called *hu-na*. It says that from tune to tune one washes away one's cares and anxieties and this song takes one's fancy.

The above seven tunes are in one or other of the scales of *huang-chung* ; one is in *huang-chung shang* (the *i-yüeh* mode); one in *lin-chung shang* (the *hsiao-chih* mode).

The musicians all wear K'un-lun dress, covering their loins with red cotton cloth (*tieh-chao-hsia*) which they call *jung-man*. They wear *chao-hsia* across their shoulders; on their legs and arms they have golden, jewel-studded bracelets ; they wear golden head-dresses and ear-rings. They use a string or sash to thread flowers in order to make a headdress. They use two hair-retainers decorated with down. Before the dance begins the "introducers" come forward and explain its meaning. The dance-movements follow the music. The number of dancers used is 2, 4, 6, 8 or 10. They all wear jewelled caps. When the tune is over, they bow. Their songs were translated at fifth hand.

The Emperor Tê Tsung made Shu-nan-t'o an Officer of the Stables *t'ai-p'u-ch'ing*), and sent him home. T'ang Tz'u, Governor of K'ai-chou, made an "Eulogy upon the event of the P'iao offering music," which he laid before the Throne.

* * * * *

533 171 175 One wishes that all this had not been lost so completely. Siamese influence is of course much more recent. There were two conquests of Ayudhya (ဓိုယား *Yodaya*); the 1st by Bayinnaung (1551-81 A.D.) and the second by Hsinbyushin (1763-76 A.D). The latter was the more important because the conqueror not only brought back enormous numbers of prisoners of war but managed to hold Siam in subjection for a few years. Mr. Stewart, writing on the Burmese stage[1] remarked "Entertainers of all sorts were

1. Journal of the Royal Society of Arts, Vol. LXXXVII. No. 4516. *The Burmese Stage*

13: Khin Zaw 1-5 (no date) 1940 AP1 Burma
Burmese AP4

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On learning this remarkable fact, one will feel no doubt inclined to say: 'Quite so, but since the cycle is formed in a logical fashion by the application of the phenomenon of harmonics, is it not possible that the construction might also have been discovered elsewhere than in China, quite independently; in other words is it not possible that it may have a multiple origin?'

No doubt that would not be impossible in itself. But what is hardly believable is that not only should the structure of these scales be founded everywhere on the cycle of the blown fifths, but that all should start from the same fundamental note, that of the *houang tchoung* of 732 vibrations; which brings us back to the same conclusion that, not only the relative structure of the scale, but also the absolute pitch of the notes is the same in all cases considered. This circumstance eliminates the hypothesis of a series of coincidences: One is certainly dealing here with intercourse between people and people. For all we know, this intercourse may apply to the musical scales of prehistoric China, of Siam, of Burma, of Cambodia, to those of the African xylophones, of the pan-pipes of the Incas, to those of certain Melanesian, Polynesian and present-day Brazilian tribes. And it is intercourse of the same kind which one must concede, by virtue of the same arguments, to explain the Javano-Balinese scales, as we believe we have demonstrated by means of a number of measurements of sounds *De Toonkunst van Bali* II, Figures I-V and VII-XIX. It has been proved that the influence of the Chinese metrological basis, corresponding to the *houang tchong*—230 mm.—was used or is still used, everywhere independently of musical instruments and scales, in an enormous territory, stretching from Europe on the one side to South America on the other. Von Hornbostel, *Ueber einige Panpeifen aus Nordwest-brasilien* (*in* Th-Koch. Grunberg, *Zwei Jahre unter den Indianern*), 1910; *id.*, *Ueber ein akustisches Kriterium fus Kulturzusammenhange* (*in* the *Zeitschrift fur Ethnologie*, 1911, p. 601 sqq.); *id.*, A brief summary of the theory of the blown fifths (*in Anthropos*, Vol. XIV/XV, p. 569-570), 1919-20; *id.*, An article treating with the metrical norm in the *Pater Schmidt Festschrift*, which will very soon appear. Recently appeared under the title *Die Massnorm als Kulturgeschichtliches Forschungsmittel.*

I hope those who are interested will be able to go farther into the matter with the works mentioned. I feel personally very much inclined to believe that the Burmese scale, whatever it may be now, was at the beginning founded on a pentatonic basis not very much different from the *kung, shang cho, tze, yui* of the ancient Chinese musicologists.

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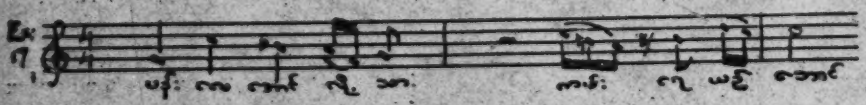
At this point I must draw the distinction between Burmese music as we know it and music which once existed in Burma now lost to us. Of the former the earliest mention was in connection with Mintra Shwehti's investment of Salin *circa* 1539 A.D. Of the latter the earliest mention was in the reign of Emperor Tè-tsung in 802 A. D. Mr. G. H. Luce says:

• "In 791 K'o-lo-fêng's successor, I-mou-hsün, attacked the Mang tribes. At the request of Wei Kao, the Chinese governor of Hsi-ch'uan, he sent a troupe of musicians, including Pyu, which appeared at the T'ang court in 800. This led the Pyu king, Yung-ch'iang or K'un-mo-chang, to send in 801-2 a formal embassy to China *via* Nan-chao; it included his younger brother (or son)

deported from the conquered country to Burma, and these included actors capable of performing dramas, of which the prime favourite in Siam was the Rāma play.." He restricted himself to the stage only. What was true of the entertainers was true also of artists, craftsmen, musicians, sculptors, even games and confectionery. It was at that time that our cultural store-house was filled with Siamese loot. And at that time there lived a remarkable adaptor, creator and preserver of music, in the person of Myawadi-wungyi U Sa (1766-1853 A.D.) whose incredibly long life was filled with literary, dramatic and musical activity. There does not seem to be any kind of song which he has not written. Popular belief attributes to him no less than 200 *patpyos* ပတ်ပျိုး alone.[1] All the *patpyos* in *Enoung Zat* are his. Our most famous *Htumachana thachingan* ထုံးစံဆန်းသချင်း is his. Our present harp with 13 strings instead of 7 was also his. Our *Yodaya* ယိုးဒယား songs owe their establishment as a principal section in our classical repertoire entirely to the tireless adaptation into Burmese of every kind of *Yodaya* song he and his collaborator ဝိုင်ဒူမင်းသား could lay hands on. If the second conquest of Ayudhya was the single event, U Sa was the single person responsible for the energising of the body of our music by a liberal infusion of Siamese blood. Not content with adapting Siamese melodies, U Sa is reputed to have adapted certain slow measures of Christian sacred music ဘုရင်ခံအသံ which he heard from early Roman Catholic missionaries in the beginning of his အထူးထူးသီချင်း ပတ်ပျိုး In another သားဆိုမှုံတစ်ပျိုး notice the following phrase:



He was already experimenting with the Western Leading-note. The first B at ဒေါင် is the flattish Burmese seventh, whereas the B's in the following bar at တီး and ဒု are really the Western Leading-notes only a semi-tone distant from the Tonic. It is impossible to be certain, but it is highly probable that it was then that an advance from the pentatonic basis was achieved. For even as late as Bodawpaya (1782-1819 A.D.) according to the great harpist U Phoo Gaung, U Sa himself was still playing on a harp with only 7 strings, until his royal master asked him if he could not do better than that, when he fashioned the harp as we know it, with 13 strings and a gamut of nearly 3 octaves.[2]

Under the circumstances mentioned above it is inevitable that the Siamese scale too came to Burma, to stay. The question is whether the Burmese adopted the Siamese scale or adapted it to

1. Ba-U Nu's သဘင်ဝန္ဒတော်၊ Sun Mag. July 1939.

2. Although there are only 13 strings, the intermediate notes are obtained by 'stopping' the open strings with the tip of the fore-finger of the left hand.

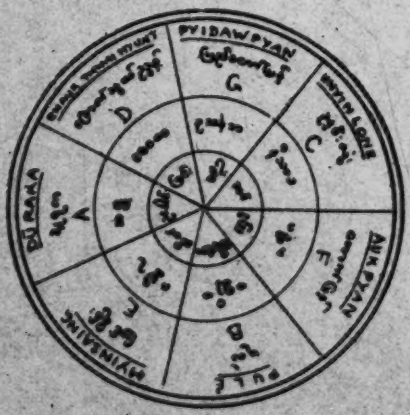
13: Khin Zaw I-5 (no date) 1940 AP1 Burma
Burmese AP4

533 their needs. The only clues that can lead to an answer to this
171 question exist in the chart *La Planche-I* appended to J. Kunst's
175 article. The measurements of the Siamese scale were taken from Stumpf's '*Tonsystem und Musik der Siamesen*' p. 137; and the measurements of the Burmese scale, presumably the only scientific measurements ever taken, were from Von Hornbostel's *Ueber ein akustisches kriterium für Kulturzusammenhänge*, p. 613. The Siamese scale attracted also the attention of Prof. F. Max Mayer of the Missouri University, who, in his article *Musician's Arithmetic*[1] seemed fully convinced that the Siamese equal tempered 7-tone-scale and the Javanese equal tempered 5-tone-scale with the western chromatic scale were the only equal tempered scales in the world. Kunst, however, refuted that theory towards the end of his article in the Journal of the Siam Society:—

> "Sometimes it seems as though they meant to create an equigraded scale (5 x 240 C.), but most of the scales measured had one degree greater than the others. [Kunst's *De Toonkunst van Bali*, Vol. II, tables II, IV and V] in conformity with the hypothesis propounded above.
>
> "Furthermore, the famous tonal plan of the *patet* is based—and the Slèndro too—on the particular position in the scale of intervals having different dimensions, in other words: an equigraded scale (of which one uses all the tones in one and the same composition, as always with the *Slèndro*), is, if I am not mistaken, incompatible with the pure nature of Javanese melody."

That disposed of the theory of the Javanese equal tempered 5-tone scale. Unfortunately, Kunst did not deal with the Siamese scale at all beyond supplying the measurements. And of these measurements, those of the Burmese scale by Hornbostel certainly look as though it was an equal tempered 7-tone scale. There was no sign of the existing sharpened Fourth.

Diagram 1.



Diagrams of changes of key prescribed by the classics go right round the octave in a succession of underfifths without such means as the black keys of the piano [*See* Diagram 1]. Indeed U Ba Choe mentioned, in his ဆယ်ခွဲ(၇)ဝါး ဆရာကြီး one song (long forgotten), a *kyoh* သုံးဆယ်ဆရာ ဆရာကိုယ်တိုင် အစဉ်ဂျာ လည်ပြီး which modulates (?) into all the 7 keys.[2]

1. University of Missouri Studies, Vol. IV, 1929.
2. U Ba Choe has rediscovered it, and when we investigated its changes of key on the piano, we found that it went the round of 12 keys; C—F—B flat—so on, back to C major.

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If ever true modulation into all the 7 keys were possible, it must have been at the time of U Sa, employing some such scale as Hornbostel's *echelle birmane*. Was the Burmese scale pentatonic in origin? Did it adapt itself to an equal tempered seven-tone scale from Siam towards the end of the 18th century? Did the intervals then become less and less equal until they nearly approximated to the Chinese scale of Mr. K. C. Hsiao, presently to be quoted, with an indeterminate Fourth and Seventh? How did this indeterminate Fourth and Seventh come about? These are questions to be settled by future more competent research. I shall however quote the very significant remarks of K. C. Hsiao on the present day Chinese scale.[1]

"....The true cause seems to lie in the incorrect intonation of modern Chinese instruments, incorrect in the sense that the intonation has deviated from the theoretical intention of the scale construction.

Let us take up the keyless-flute and find out what sort of scale it produces. This flute is virtually the standard pitch pipe[2] of the Chinese ensemble..... By careful experiment it has been found that the fourth and the seventh of the scale thereon are both "neutral," that is, the fourth is neither a half-tone above the third as in the European diatonic major scale, nor a full tone above it as in the theoretical Chinese heptatonic scale, but is just about mid-way between the third and the fifth, and the seventh is similarly mid-way between the sixth and the octave. It becomes at once clear why Chinese instruments sound impersonal or neutral or out of tune .....

The true reason for the incorrect intonation of the existing Chinese instruments cannot be stated with absolute certainty. The most probable reason is this: During the Yuan dynasty both the neutral and sharp F were used.....But the production of both these chromatic tones could not be done on the flute except with the assistance of special key devices unknown to the Chinese instrument makers or with boring the second and fifth holes counting from the lower end, larger than the rest. It was possible at that time when both f and f-sharp were in use to bore the holes on the Chinese flute so as to enable the player to produce the notes when desired by a definite system of fingering such as now used by western fife players. But with the coming of the Ming dynasty, this whole system transgressing the pentatonic scale was officially abolished.

Musicians then and therefore did not have to bother at all about producing f and f-sharp, and following the law of supply and demand, the flute makers undertook to make flutes that could not produce either f or f-sharp accurately, *but had more uniformity and symmetry in their appearance by boring all the finger holes of the same size and with a minimum variation of distances from each other*[3].....If a player who had bought the flute cared to produce all the tones on the instrument, what he got was naturally a scale with neutral fourth and seventh, agreeing neither with the European diatonic (with the perfect), nor the Chinese heptatonic scale (with the augmented fourth). The same thing was then applied to the playing of stringed instruments.....to be in tune with the wind instruments.

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1. *Chinese scale theories*. Appendix 6 to *The Musician's Arithmetic* by Prof. Max Meyer in the University of Missouri Studies, Vol. IV, 1929. pp. 115-6.

2. Like the Burmese oboe ⅓ (*hné*)

3. See Diagrams 2 and 3 of the Burmese oboe ⅓ (*hné*) and tables 3 and 6.

13: Khin Zaw I-5 (no date) 1940 AP1 Burma
Burmese AP4

> ....Nowadays in certain localities of China, the performance of music has come to be looked down on as a menial and unscholarly vocation.... although this aversion is not universal in China, music has been intellectually neglected for a long time. As a result music has become unmusical in China. And this in turn has increased the contempt in which it is held by the educated classes. It is a vicious circle."..... 533 171 175

I would not have allowed myself to be thus catapulted into the problem of the Burmese scale were it not so necessary to emphasise the very sharp line of demarcation between classical evidence and musical evidence. Too long have we taken shelter behind the façade of ancient Indian culture. [114]

With regard to the most important real evidence of the written records, what have we to rely on ? Only one MS in *parabeik* form—ခရဖဝ *Naralikha*. U San Win himself pointed out that no other Burmese work on Burmese music had ever been known to exist. Until one has seen that *parabeik* one would be foolish to talk about the Burmese scale with any conviction. The best that can be done is to proceed from the known to the unknown and talk of clues rather than discoveries.

If it were possible, a scientific survey of the principal Burmese musical instruments should establish the one Burmese scale which is common to the whole country, or rather to which all the scales all over the country approximate. Everything about us is approximate. Our tunes, having no notation, are always at variance. Western people talk of our lack of method. Yet..... 533 183

> " The elements of tone and rhythm have been combined and recombined, and have left the theory a tangled mass of forgotten systems and the practice an ineradicable instinct. The veneration for the past because of its remoteness, the mental attitude which looks away from the categories of time and space and turns its attention upon the essence of the thing itself, the faith which links the present closely with the time when the gods walked the earth and still points to the visible imprints of their feet—all these have united to personify every element of their music, and piously to preserve names and attitudes which have long lost their meaning; so that much of the theory is clear only to those who can read myth. Nor on the practical side has extemporization, as it is understood, been learned in a day, nor even in the life-time of any individual.....But it is age-long practice rather than memory which has placed at the command of the best singers that inexhaustible wealth of variation with which they make a melody their own, that gift of improvisation which takes on an epic quality, as all crafts do that are handed down from father to son. To walk on the Old Trunk Road is, it has been said, to step into a chapter of Genesis ; and in the same way we catch, in these immemorial cadences, the very spirit of the rhapsodists of Homer. Their music is old, but with an age like the eternal youth of Greece, not with a second childhood like the stereotyped formulas of the Troubadours."[1]

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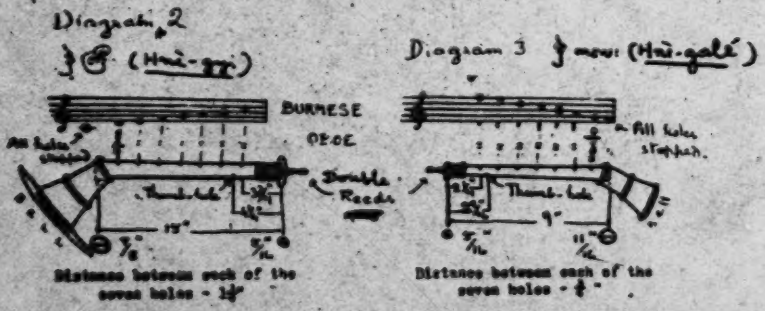
1. For Strangways' Introduction to *Music of Hindostan*.

BURMESE MUSIC.

That is a hopeful sign that the impersonal scale, which is no more than the result of a lazy way of boring finger-holes on wind-instruments, has not yet usurped the true Burmese scale. This is the time to instruct the makers of Burmese wind-instruments to bore their finger-holes more faithfully to the Burmese scale and with less *uniformity and symmetry in appearance*. Either that, or adopt the diatonic scale entirely with all its advantages.

Actually it has been the Burmese oboists who have been keeping in tune with the other Burmese instruments by means of their wonderful expertness in lipping and blowing their inadequately bored instruments. To them a precision instrument like a modern European oboe with its mechanical keys is merely an impediment. The reed on their own instruments is everything, the system of holes a mere convenience. It is amazing how their *hnès* speak not from the bell but from the staple, and how they speak! My *saya* can obtain all the notes of the chromatic scale on his *hnè* following my western oboe note by note.

Diagrams 2 and 3 will show the different arrangements of the scale on *hnè-gyi* (big oboe) and *hnè-galé* (little oboe), the former beginning and ending with the tonic and the latter with the subdominant. That does not mean that we have tenor oboes, alto oboes, transposing oboes and so on. The arrangement is purely for convenience. The middle one of the finger-holes being the most convenient place for the most frequently fingered predominating note, on the *hnè-gyi*, which plays those tunes with the subdominant predominating, that note is placed in the middle. On the *hnè-galé*, which plays those tunes with the tonic predominating, the tonic is placed in the middle. The theory of the "predominating note" will be developed in the course of this article.



The bell of this brass is hung loosely by means of cords. It is of no acoustic value and is often dispensed with. : Hnè-gyi is used for grand style songs in the subdominant mode; and : hnè-galé for songs in the ordinary key of the approximate diatonic major scale. All the holes in both instruments are of the same size.

25: Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

The cordage used in 283

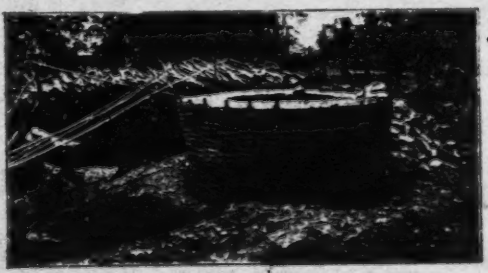
215. LIMESTONE ROCKS.

Burma is twisted from the bast of the *shaw* tree (*sterculia* varieties). For guys, stays, and standing rigging of boats, rattan is employed. Split rattan is used for strong ties, and withes of split bamboo (*hnî*) for common ties. The *shaw* rope is three and four stranded, and is twisted with native gear very like that of our own rope-walks. A long and even four-stranded rope is made by three men. This furnishes a good example of mechanical advancement, when compared with the method of the hill-people, who require six men to twist a much shorter rope of the same number of strands (Nos. 219–20). Shaw rope is smooth, but has not the flexibility of cocoanut-fibre and manila-fibre ropes, which are now imported. Fine cotton yarn is twisted into cord for making nets. A coarse jute fibre (*paissan*) is also twisted for net-making.

[171] [439]

Silk-culture is under the ban of Buddhism for the same reason as fishery. The greater part of the silk yarn used is brought from China, but a good deal is produced locally by the *Zabîn* or *Yabîn*, a people speaking Burmese and resembling the Burmans in most respects, but despised by the latter. They are settled along the foot of the Pegu Yôma hill-range, on its eastern and western slopes, where they make clearings in the forest (*taungya*) and plant the mulberry. They prepare a yellow silk yarn which, coarse and knotty as it is, is preferred for the best class of Burman silk cloths (*luntayd*, No. 132). The raw silk fetches thirty-five to forty rupees a viss. It is a perfect washing silk in all its dyes and wears a lifetime. In a few localities, silk-weaving is a special industry practised by men as well as women. Settlers from Manipúr

288 231 [779] 554 463]



218. LIMEKILN.

288 563

25; Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

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217. PLASTERER'S SCAFFOLD ON ZEDI.

(*Kathé*) excel in this work and form colonies for the industry. Attempts have been made in Europe to imitate the scroll-patterns on the Jacquard loom, as well as to print them. But the imitations fall too far short of the original, which is nearly the same front and back. The best *lun-tayá* silks cost ten to fifteen rupees the square foot, which makes two hundred to three hundred rupees for the *pasó*. Only an inch or two a day can be woven. Italian methods of carding, dyeing, and finishing silk, were introduced by the late King, Mindôn Min, and have helped to develop an important industry in Mandalay. Stripe and tartan patterns are woven in this way, chiefly from China silk. Fine texture and delicate tints are aimed at, rather than rich colour and design. The *pasó* of

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twenty cubits, one cubit wide, costs ten to twenty rupees.

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The Burman umbrella (*tí*) is on the Chinese model—a bamboo frame with paper cover. The Chinese umbrella has a thin paper cover, the Burman has bast-paper, which outlasts several of the other. But the Chinese umbrellas are cheaper, better waterproofed, and sun-proof. The Burman *tí* is waterproofed by occasional oiling with crude petroleum. A waterproof size made from the fruit of the *tí* is used for fixing the paper to the ribs and the cotton twines that connect them. The red, the gilt and the white umbrellas are emblems of state. The first two denote official rank, according to the number assigned. Such umbrellas have stems of turned wood, six to eight feet long, to allow of the *tí* being borne over the officer on horseback or in his chariot, by attendants on foot (No. 375). The

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218. SCULPTURING MARBLE IMAGES.

25; Ferrars E-5 (ca. 1890) 1901 APr Burma
Burmese AP4

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[398]
[505]
● [171]

308. BURMAN CARTWRIGHTS.

ngapi, dried fish, salt and rice, besides imported goods. They bring down the manufactures of the North—cutch, lacquer, images, and *parcikaya* wares. They have to endure a formidable competition from the river steamers. In its existing form, the boat of Burma presents no near affinity to the boats of neighbouring peoples. The types of architecture which the Burmans borrowed from India they have treated in a distinctive way which gives them independent interest. But the art which culminates in the stately ship of the Irawadi is purely their own achievement. The work derives unity from the noble balance of the masses and life from the spirited sweep of the curves. The severity of line is relieved by plastic incident in the rich carving. The structure itself is patent and not concealed (with the exception noted), and the decoration goes hand in hand with it. Besides their own type of boat, the Shan type (No. 320) has been developed into a large craft for carrying earth-oil in bulk—the *peingâw*. Two long, partially-hollowed teak logs form the sides of the lower hull, with several thick planks intervening, for the flat bottom. Two planks above these complete the sides, all held together by nails and ribs as in the *laungzât*. There are outrigged bamboo galleries for the crew to row and pole, which allow of the deck-house being carried from end to end, providing accommodation for several families. The rig is the same as in the *laungzât*. In tidal and salt waters, boats have to be beached once a month to bream the bottoms and destroy the teredo. The rest of the woodwork and tackle is protected with earth-oil. The boats of Arakân are on Indian lines. There is

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[493]

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308. BUFFALO-CART.

31: Scherman--2 E-4 (no date) 1915 AP1 Burma
Burmese AP4

/203/ TYPES OF HOUSES IN BURMA AND ASSAM

by

L. Scherman, Munich.

(With one map, 17 illustrations in text and Plates IV-X.)

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341

The traveler coming from India to Burma will, in addition to the change in the racial types, notice the strange architecture of the buildings, their floors resting on piles about one to one and one-half meters above the ground. By this characteristic they contrast sharply with the construction methods of the great cultural zones: India, China and the kindred Tibet, between which Burma, a British Indochina, is wedged. They adhere to that familiar system which is customary farther south in the archipelago and the South Sea Islands. The geographical and anthropological passage by land is through Assam, and here the Tibeto-Burmese mountain people, surrounded by levelling Hinduism, still cling predominantly to the pile dwelling which is found in Burma as the general norm. In the rest of Indochina, e.g. Siam and French Indochina this norm continues, if it has not given way to Chinese influence, which makes itself felt also at Bhamo, at Burma's northeastern border. At Siam's southern tip adjoins the already-mentioned civilization with its pile dwellings, more rightfully called Malayan (1).

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1. cf. the popular survey by F.V. Hellwald, Haus und Hof in ihrer Entwicklung mit Bezug auf die Wohnsitten der Völker /The Development of House and Farm in Relation to the Housing

31:Scherman--4A E-4 (no date) 1915 AP1 Burma
Burmese AP4
Southeast Asia AL1

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[p. 204]

[For description see page 4 category 116.—Analyst]

[562] below the man and are not accorded full value as human beings, one does not consider this a degredation, although to be under inhabited floors (see above)[1] would be considered as a disgrace for others.

342 industriously. Weaving in Burma is still one of the most important home industries. Otherwise [231] the room under the house is used only for storage of household and agricultural implements, and also at night as a stable for buffaloes and cattle if there are no protective roofs provided for them. On top of such roofs the fodder grass is piled up.

A large Burmese house (Plate IV, 3) gives the impression of a composite of several individual buildings (6) standing on a platform. This is

•[71] 6. The accounts of P.A. Thompson, Lotus Land (London, 1906), p. 40, and F. Swettenham, British Malaya (London, 1907), p. 151, show that this Burmese house-type with its detached sections, surrounded by a platform, is also customary in the lowlands of Siam and on the Malayan Peninsula. It is also known in Sumatra, according to M. Moszkowski, "Beiträge zur Entwicklungsgeschichte des Wohnhauses in Ostsumatra" /Contributions to the History of the Development of Houses in East Sumatra/, Archiv für Anthropologie /Archive for Anthropology/, Vol. 37, (1910), pp. 11-13, Figure 21.

P. Sarasin in "Über die Entwicklungsgeschichte des griechischen Tempels aus dem Pfahlhause" /History of the Development of the Greek Temple out of the Pile House/, Zeitschrift für Ethnolologie

[1] [See category 116, page 5.— Analyst]

342 of the roof ridge. Rafters--thin bamboo poles--
335 are placed over this roof structure (Figure 1). Split and flattened bamboo poles are used for floor boards as well as being joined together to serve as doors. The outer walls and partitions consist of frames (zali) with strong bamboo wickerwork (yaing). The outer walls are frequent-
[353] ly decorated with black and white ornaments (Plate IV, 4); more delicate wickerwork is used for the floor covering. Not one single nail can be found in the entire house. The posts and the strong cross beams are mortised with each other; to fasten the roof rafters and the mat walls, tough green ribbons are cut from bamboo and are made pliable by soaking them in water. The doors have no hinges, but turn in sunken in peg extensions on top and bottom of the door cases (7).

• [171] 7. The avoidance of nails through fastening with plant fibers (bamboo, rattan) is the rule for the bamboo house all over Burma and Assam. H. Frobenius, ibid., p. 568, points out the same with regard to the central Oceanic architectural area.

342 The houses in the cities are usually built of
824 wood; the famous teak wood which was selected primarily for monasteries and the palaces of the princes has long since become a costly building material. Therefore even the well-to-do people use it only for the main posts; its resinous oil protects it against attacks from termites. For the better housing constructions iron wood (Xylia dolabriformis, Burmese: pyinkado) which is just as durable, is mostly used. For the simplest roofing material the thekké grass (Saccharum cylindricum and Saccharum spontaneum) is preferred in the entire country, with the exception of lower Burma where palm leaf material is popular. The former is a coarse grass related to the sugar cane. Their stalks are tied fringe-

346 776 777 782 776 ous buildings, such as monasteries, /208/ monastic rest houses and wooden chapels. The burying alive of human sacrifices at the posts of the foundations of the entrances was in old Burmese days considered as an indispensable method of protecting important buildings, such as princely palaces, city gates, bridges, etc. The ghost of the entombed—according to Burmese belief those who have been killed by violence are rooted to the spot where they died—is supposed to watch as a guardian over the building, post, or bridge foundation.

782 787 As late as the middle of the past century, more than fifty human beings were buried alive when the foundations for the palace and the city walls of Mandalay were laid. But the protective power of those ghosts was of limited duration. From certain omens it could be predicted that the protection was going to cease, and then it was time to leave the place which was open to disaster. This was the explanation given for the frequent change of residence of the Burmese rulers. The small chapels with their stone images of door guardians at the gates and corners of the walls of the palace area of Mandalay still indicate the locations where these human sacrifices have been buried, though the modern inhabitants will not admit this to a European. At the corners, filled oil jugs were sunk over the buried people; the dwindling of the oil in the containers, which were examined every seven years, foreshadowed an approaching catastrophe in 1880. They tried to avoid this catastrophe with new sacrifices. Nevertheless, it happened. The British occupied the country and the kingdom perished (10).

171 782 10. Primarily, according to Shway Yoe, ibid., pp. 482 ff. It is well known that the burying of live sacrifices at construction foundations is a custom, widespread all over the world,

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which was not at all unknown in European countries. About it see: R. Andree, Ethnographische Parallelen /Ethnographic Parallels/ (1878), pp. 18 ff.; F.S. Krauss, "Das Bauopfer bei den Südslaven" /Building Sacrifice among the Southern Slavs/, Mitteilungen der anthropologischen Gesellschaft zu Wien /Proceedings of the Vienna Anthropological Society/, Vol. 17 (1887), pp. 16 ff.; W.T. Brigham, The Ancient Hawaiian House (Memoirs B.P. Bishop Museum, Honolulu II, 3), pp. 27 ff.

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In earlier days every Burmese settlement was surrounded by a fortification, cities having stone walls or stockades, the villages impenetrable fences of close rows of thorny bamboo shrubs, prickly cacti, or palisade-like fences of bamboo poles between which pointed bamboo stakes protruded. The latter type of fortification exists today only in the areas where the mountain tribes live, beyond the zone of British administration. Before
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the British took over, the constant feuds between the individual tribes and the excesses of robbery made it necessary for each village to protect itself like a fort. With the increased safety of travel and property under the British rule this has become more and more unnecessary, although some districts still experience nocturnal robberies. The villages in the Prome District, which has one of the worst criminal records in Burma, are with practically no exfeptions enclosed by dense high, thorny hedges which have only narrow entrances.

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The buildings of the Shan (11)--population in

11. Cf. especially L. Milne, Shans at Home (London, 1910), pp. 100 ff.; A.K. Gebauer, "Die nördlichen Schanstaaten und ihre Bewohner" /The Nor-